



Jet Noise Commission



Summary Report of the Year 2020

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Overview

The purpose of this report is to give an overview of air traffic around Huntington Beach for 2020.

Jet Noise Commission Activities

Due to the impact of COVID-19, the Commission only met twice (in January/February) during the year 2020. Nonetheless, progress was made.

- ✓ Meetings with LGB and Southwest resulted in two proposals being submitted to the FAA. These proposals formalize 3-degree glideslope procedures for LGB arrivals with the specific intent to get altitudes at waypoint LUCIG 3000 feet or above.
- ✓ SWA agreed in the meantime to address their pilots and try to get them to more routinely stay on a 3-degree glideslope over the City. A metric scatter-graph chart has been created which will demonstrate whether this has helped or not while waiting for final FAA approval.
- ✓ A color brochure discussing the jet noise issue over the City was developed and the penultimate draft was circulated for comments. It should be finalized and into print in early 2021.
- ✓ Additionally, several air traffic analysis reports were compiled and published that show results of tracking the air traffic over the City. These are available to the public on the City website.

Congressman Rhouda started an Orange County Jet Noise Task Force. Mayor Semeta was asked to be a member of that and relayed back a lot of information. Unfortunately, the major focus of the group was SNA departures, which have limited noise implications for HB. Nonetheless it was a way to at least get a foot in the door in case future possibilities open up.

Finally, 2020 was an election year and council member Brenden, one of the founders and liaisons to the Commission, decided to not seek re-election. Incoming council member Kalmick has stepped into the liaison role and has participated in one LGB/SWA meeting already. The Commissioners all express their thanks and gratitude for the last 3-plus years of Mr. Brenden's support and drive on this issue.

Air Traffic Summary

2020 was the year that COVID-19 arrived and so starting in March of 2020 air traffic came to a near grinding halt and even after some recovery starting mid-year has stayed somewhere in the 35 – 50% range of total passenger traffic versus 2019.

The result of that was a huge decrease in traffic over the City and of course correspondingly less noise and fewer noise complaints. All three local airports experienced less traffic and fewer passengers, but on top of COVID-19, Long Beach had some other factors.

JetBlue permanently stopped operating at LBG in October of 2020. FedEx stopped coming into LGB in May of 2020 as have not yet committed to whether they will or will not return.

Hawaiian Airlines halted operations at LGB in April, but did return with one daily flight in mid-December.

Discussions with LGB indicate that by mid-2021 they expect a roughly 50% increase in daily flights over the current flights as the anticipated recovery from the virus takes hold.

The overall effect of less air traffic resulting in less noise will slowly erode away as air traffic returns, so one would anticipate an increase in noise-related complaints later perhaps Q3 or Q4 in 2021.

The Impact of COVID-19 on Air Traffic

The COVID-19 virus has a tremendous impact on air travel worldwide. One major indicator of the impact is shown in Figure 1, the USA TSA Passenger Throughput¹ from March through December of 2020 vs. 2019. Note the rapid decline starting mid-March and the slow rise starting in mid-July. The same data rolled up into by-week is shown in Figure 3, and rolled up into by-month in Figure 3. Between March 1st and December 31st, the accumulated passenger difference was roughly 525,000,000 compared to 2019, which, at an average ticket price of \$400, equates to lost revenues of roughly \$210 Billion in just ticket sales, and probably more. The financial impact is more than just passenger tickets of course. Terminal services (food, vendors, parking, etc.) all took corresponding hits with less people in the airports.

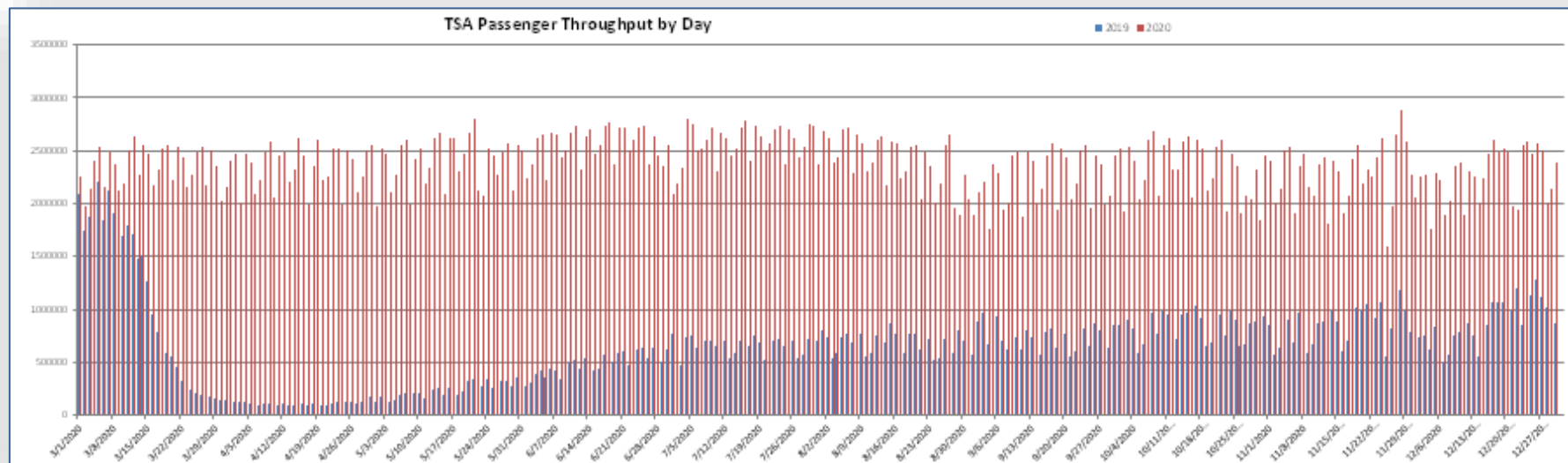


Figure 1 - TSA Daily Passenger Throughput 2020 vs. 2019

¹ <https://www.tsa.gov/coronavirus/passenger-throughput>

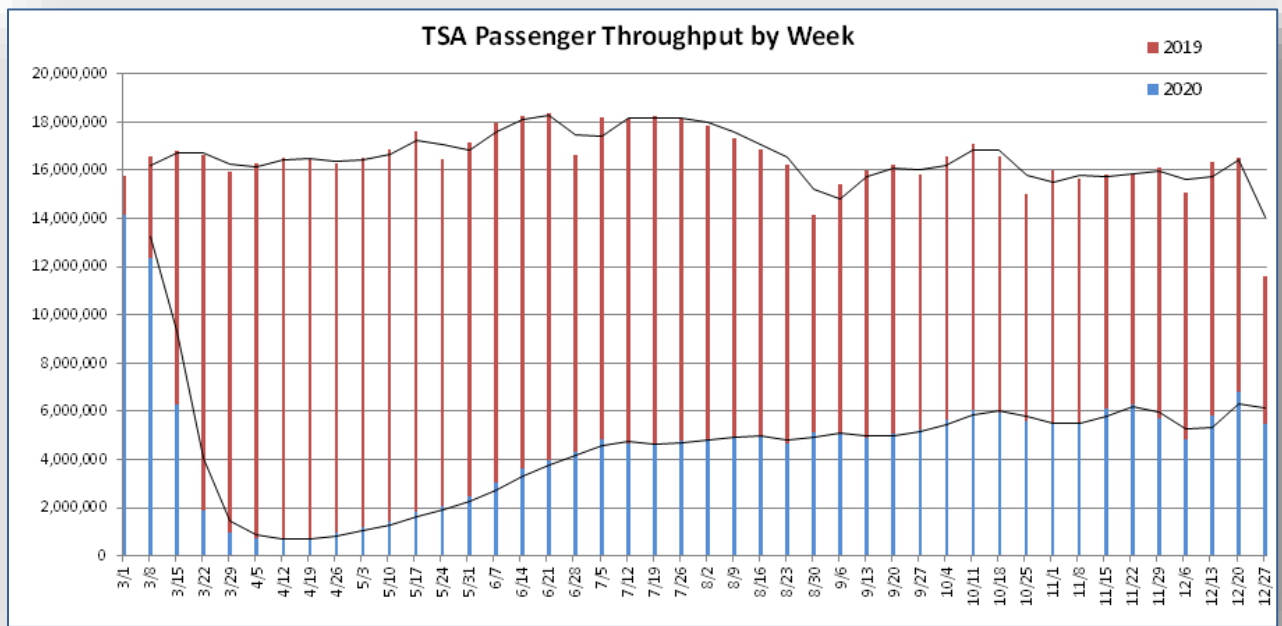


Figure 2 - TSA Weekly Passenger Throughput 2020 vs. 2019

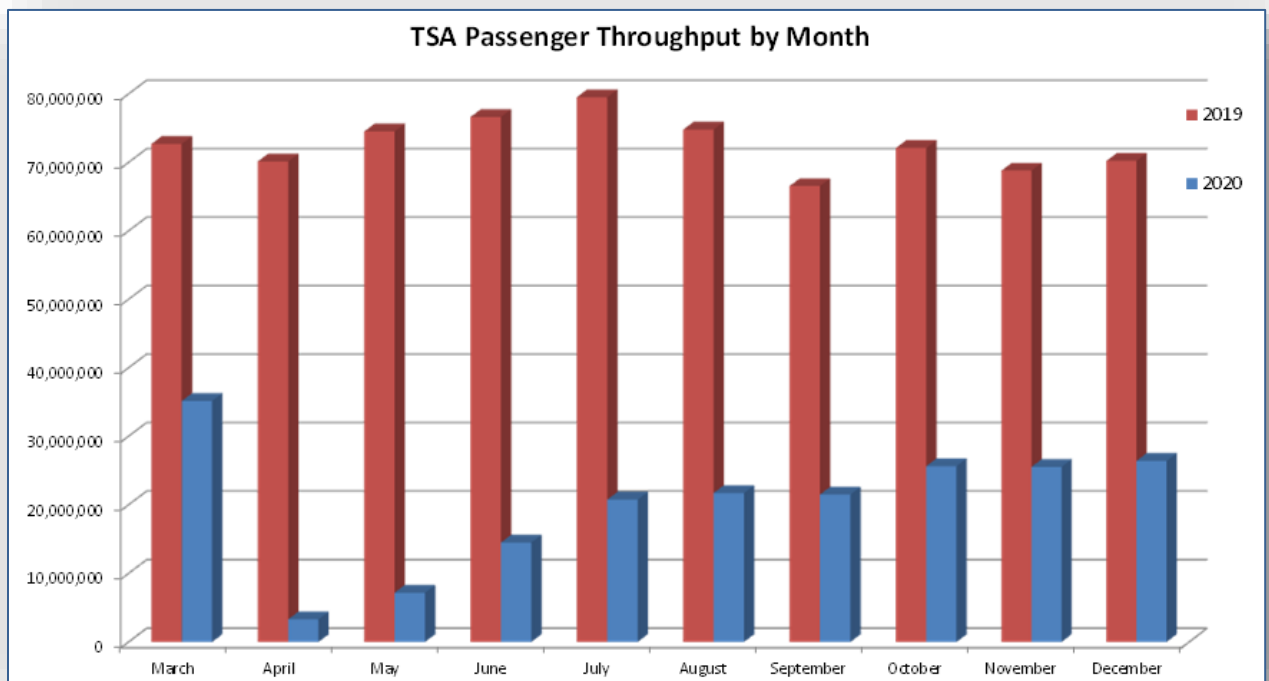


Figure 3 - TSA Monthly Passenger Throughput 2020 vs. 2019

Air Traffic over Huntington Beach

LGB

Almost all LGB arrivals come in over HB. Figure 4 shows the percent of arrivals by carrier² for all of 2020, but of course Jet Blue will be zero going forward into 2021. Figure 5 shows arrivals by month for 2019 and 2020 which clearly shows the COVID-19 impact. Figure 6 shows the arrivals by month and carrier which demonstrates the effect JetBlue's departure in October.

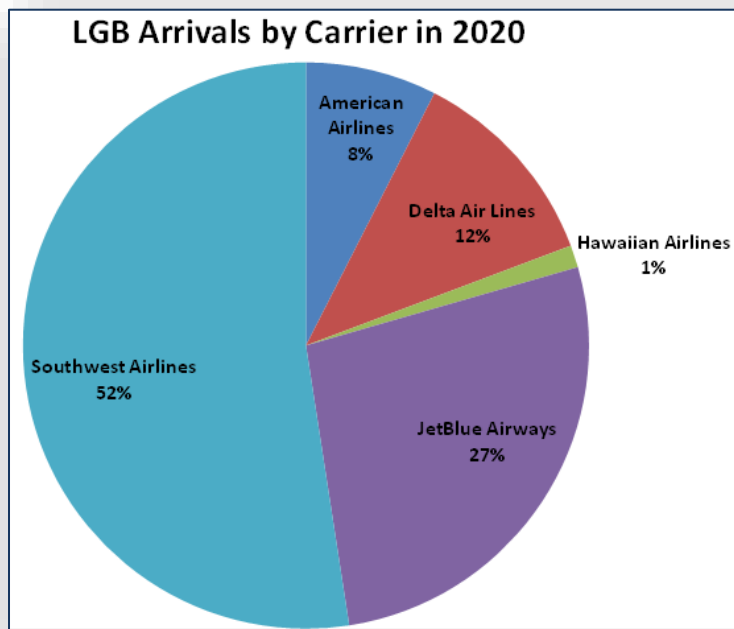


Figure 4 - LGB Arrivals by Carrier for 2020

² <http://www.longbeach.gov/lgb/community-information/noise-abatement/monthly-noise-and-activity-reports>

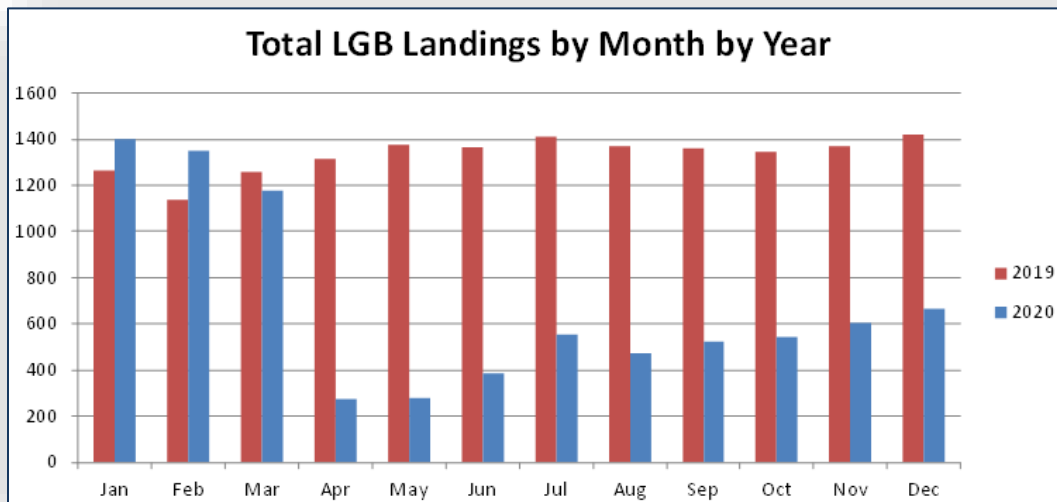


Figure 5 - LGB Arrivals by Month 2019 vs 2020

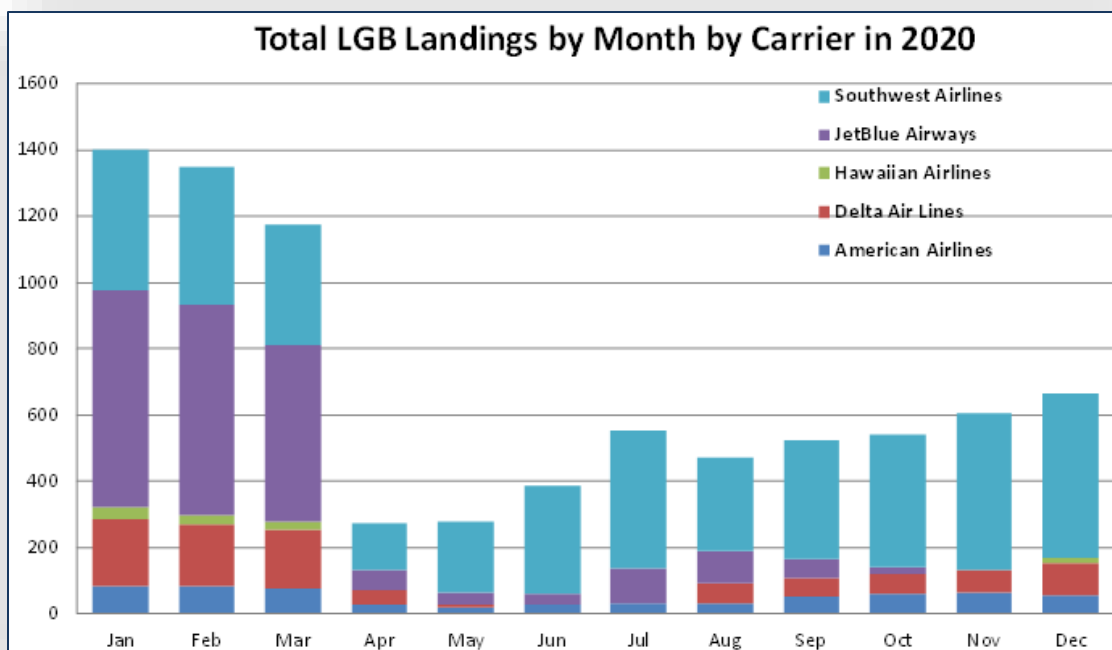


Figure 6 - LGB Arrivals by Month by Carrier in 2020

This data is important in that it shows Southwest is now the major player in Long Beach. As long as they are working with the Commission to limit noise over the City and get the FAA procedures approved, the others will follow suit.

SNA

Figure 7 shows the SNA operations by month compared to 2019 using the data SNA provides³. But unlike LGB where arrivals and departures are reported separately, one SNA “operation” could be either one, so to get an apples-to-apples comparison, operations divided by two is roughly arrivals.

Further, unlike LGB, only about half of all SNA arrivals cross over the City. So Figure 8 shows the same data as Figure 7 only divided by 4 to give an estimate of the traffic over the City so it more closely compares to Figure 5 for LGB. Data captured via an ADS-B receiver is available from July on, and the numbers from that (which captures only over-HB traffic) align fairly well with the estimate in Figure 8.

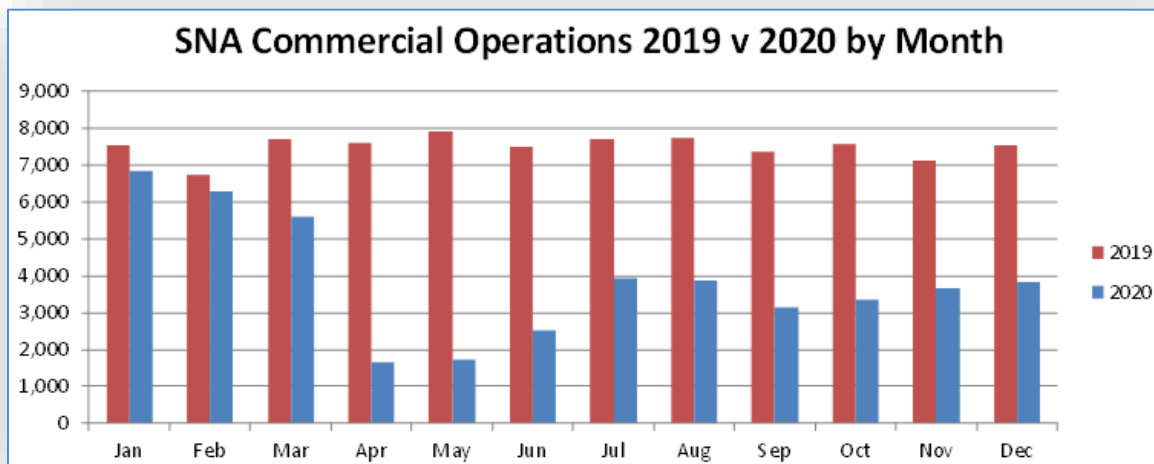


Figure 7 - SNA Commercial Operations by Month by Year

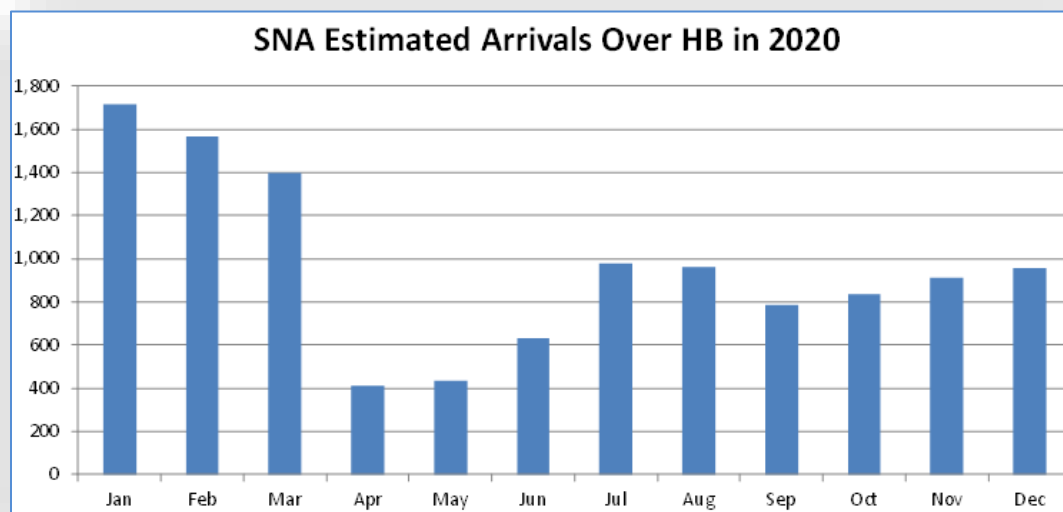


Figure 8 - SNA Estimated Arrivals over HB in 2020

³ <https://www.ocair.com/newsroom/news/airportstats>

Figure 9 shows the arrival percentage by carrier over the City. As in Long Beach, Southwest is the major player in the market by almost a factor of 2 in absolute passenger count. With luck, the good collaborative relationship with SWA at LGB will carry over to SNA in any future discussions.

However, it has to be noted that SNA is one of the most heavily regulated and legislated airports in the country. The arrival path for planes landing at SNA from the north is bounded by approach paths into LGB on one side and departure paths on the other. The narrow corridor that crosses SE HB will be close to impossible to move laterally, and the current 5,000 foot elevation has little hope of being any higher.

On the plus side, the OC task force did have several meetings with the FAA and all parties, including HB Mayor Semeta. The agreement was to push for a higher departure path referred to as NADP-2 as seen in Figure 10 which unfortunately will have little impact on the City.

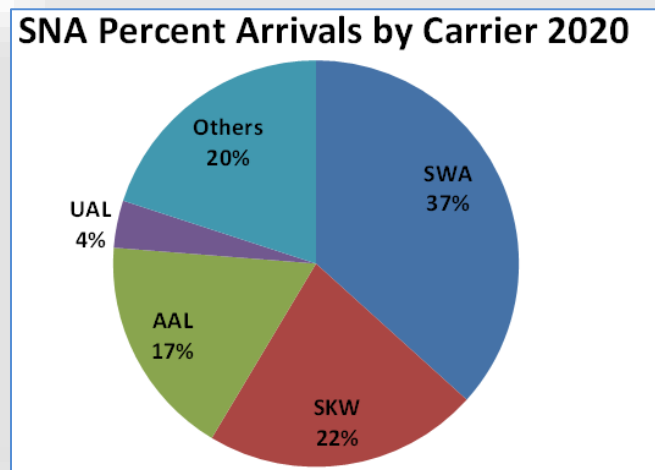


Figure 9 - SNA Arrivals by Carrier (that came over HB)

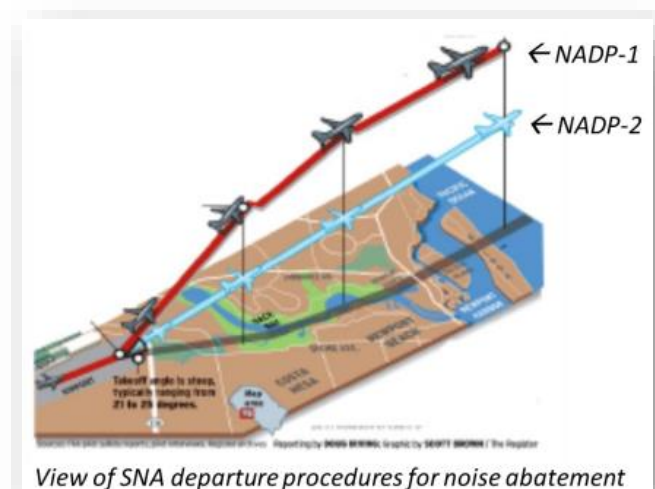


Figure 10 - SNA NADP-1 vs. NADP-2

LAX

Figure 11 shows the LAX commercial operations⁴. Much like SNA, an operation is either an arrival or a departure, so arrivals is about half of these number. Only about 9% of all LAX arrivals traverse HB so for example in Dec 2020 it shows about 30,000 operations which equates to about 15,000 arrivals and of those arrivals 1,300 were over HB which is 8.4%. Over half of all planes over HB are the summation of Delta, Atlantic, American, United, SkyWest and international airlines. They are at least 7,000 feet altitude across the City.

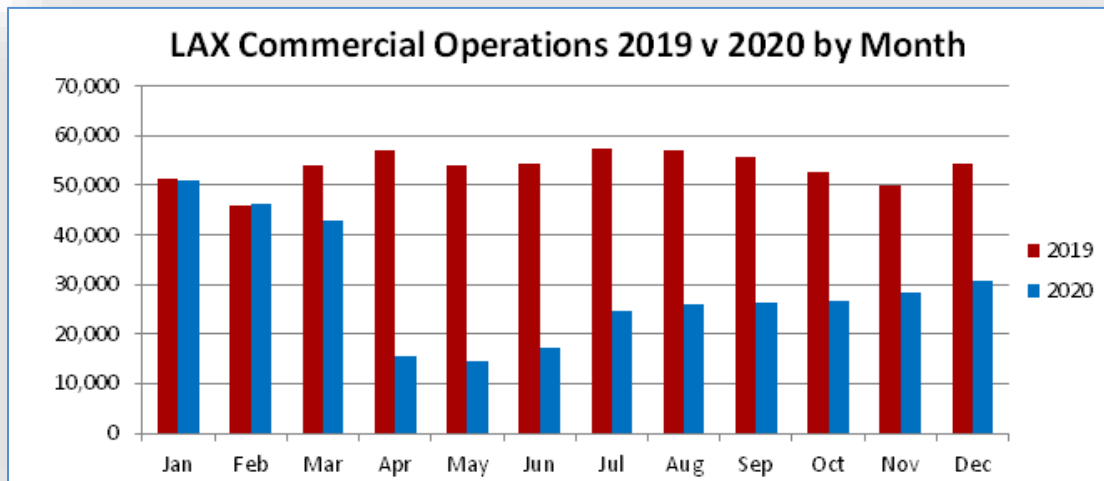


Figure 11 - LAX Commercial Operations by Month by Year

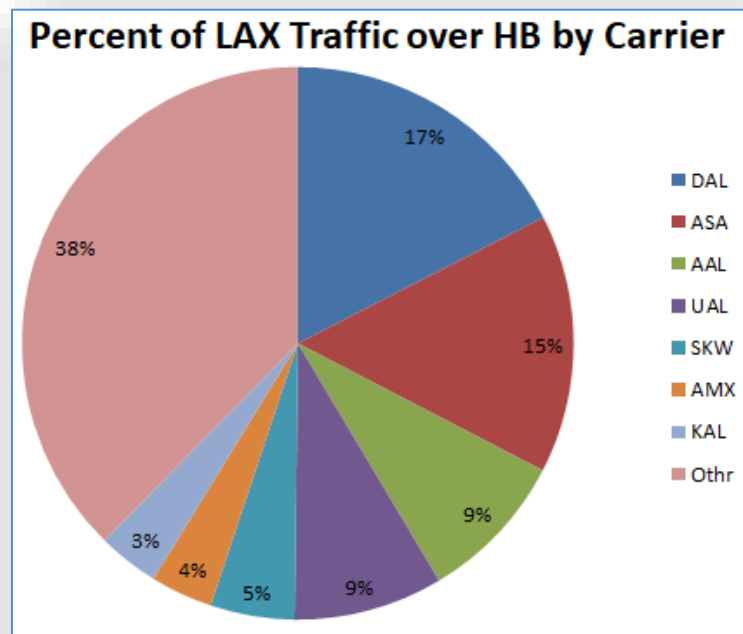


Figure 12 - Percent LAX Traffic over HB by Carrier

⁴ <https://www.lawa.org/lawa-investor-relations/statistics-for-lax/volume-of-air-traffic>

An interesting thing happened at LAX in 2020. Unlike the passenger number, 2020 shows an increase in cargo tonnage in 2020 as seen in Figure 13. Looking at the passenger count in Figure 14 and comparing that to the operations seen in Figure 11, it would seem that LAX carriers traded off carrying passengers for carrying cargo. This phenomenon did not occur at LGB, and at SNA was only a slight increase in 2020, not nearly as much as LAX.

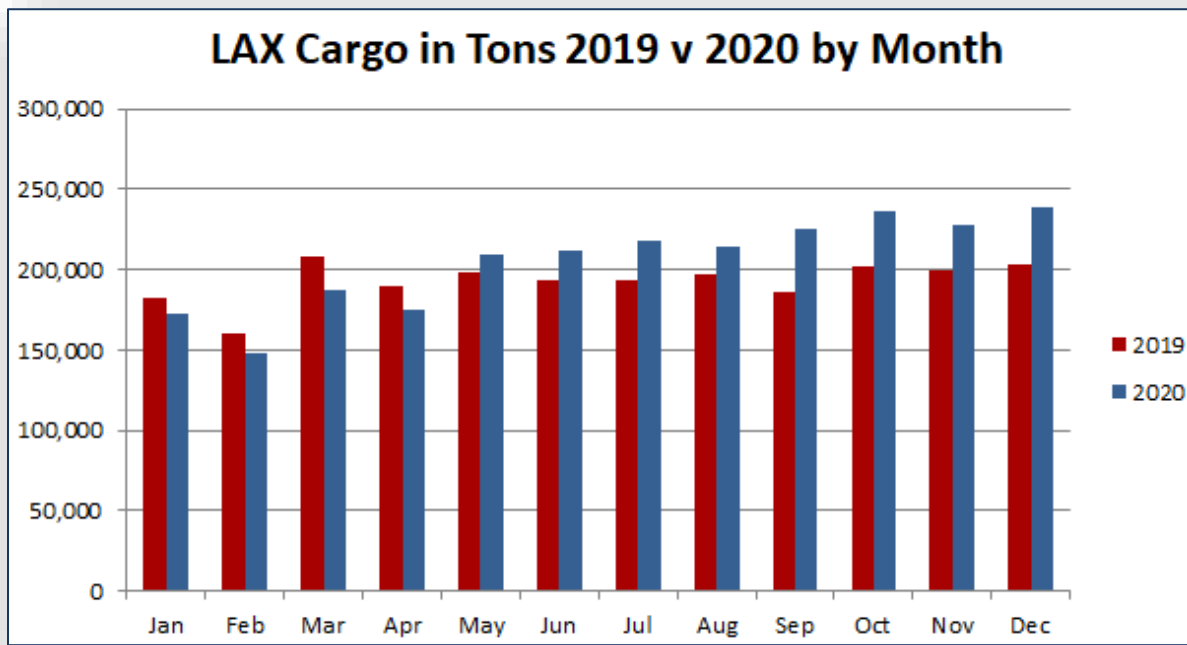


Figure 13 - LAX Cargo Amount by Month

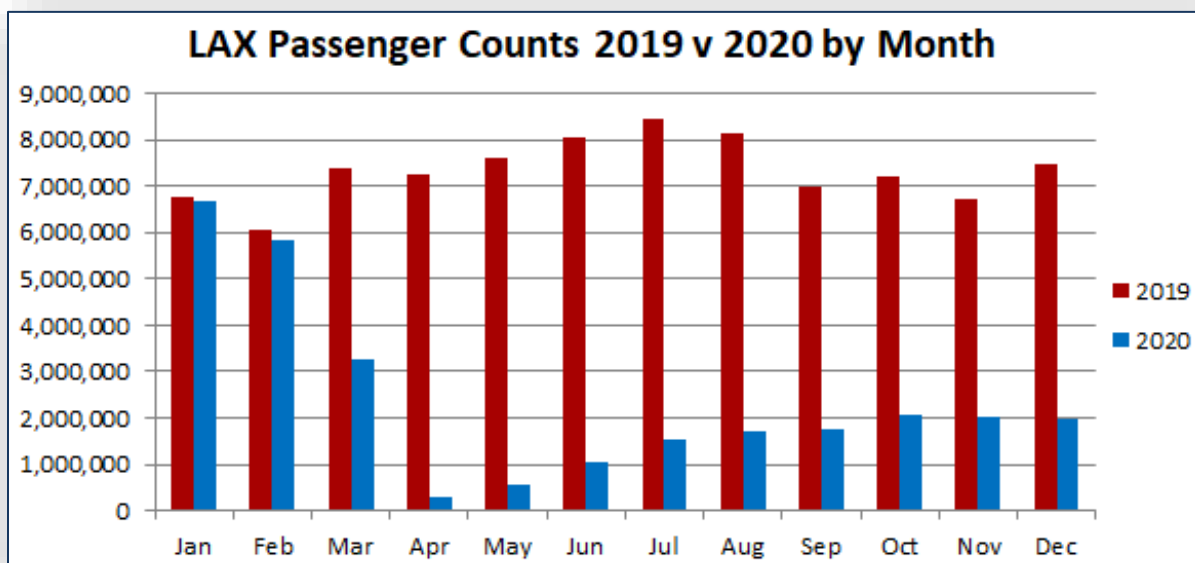


Figure 14 - LAX Passenger Count by Month

3-Degree Glideslope Proposal for LGB Arrivals

Purpose

The FAA recommends a 3-degree glideslope for most airport arrivals. This allows for a smooth descent with minimal engine thrusting and the corresponding less noise and emissions. Figure 15 is a mathematical 3-degree glideslope for reference.

The reason for the proposals to the FAA is to ensure pilots follow the approved path. Most do, but some do not. As example, Figure 16 shows two planes about 45 minutes apart on the same day by the same carrier. The bright blue line in the back is the mathematical 3 degree glideslope which is 3125 feet at LUCIG.

The green flight track is right on target, crossing the coast at 3350, crossing LUCIG at 2995 and then descends directly down the glideslope. See Figure 17.

The red flight track is off target, crossing the coast at 1400, crossing LUCIG at 1400 and thrusting across to maintain altitude. At the far left waypoint labeled GUNEY, the glideslope calls for 1500 feet and this flight is already below that. See Figure 18.

The nearly 2000 foot difference is what the glideslope is intended to minimize and/or eliminate: noise and emissions from planes flying too low over the City.



Figure 15 - Mathematical 3-Degree Linear Glideslope

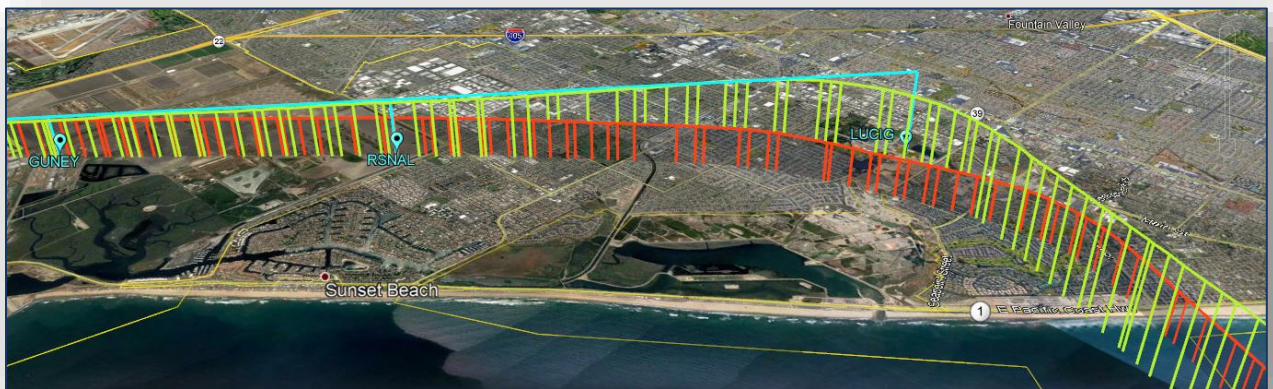


Figure 16 - 3 Degree Glideslope vs Two Flight Paths



Figure 17 - 3 Degree Glideslope vs Good Flight Path



Figure 18 - 3 Degree Glideslope vs Flat Flight Path

Metric for 3 Degree Glideslope: Over Land

One metric to assess progress is to look at a scatter graph of LGB arrivals that come in from the land approaches. Figure 19 shows a graph of SWA arrivals within 2 miles of LUCIG and the corresponding altitude at the closest point they came to LUCIG. The time frame was prior to SWA indicating they would ask pilots to do better. Figure 20 then shows the same data from 1/8 to 1/31/2021 for comparison. Obviously the total number of arrivals is much smaller, but it shows that:

- a) Some planes are still 2500 or lower
- b) Percentagewise, there is only a 1% drop in arrivals under 2500 so no significant change

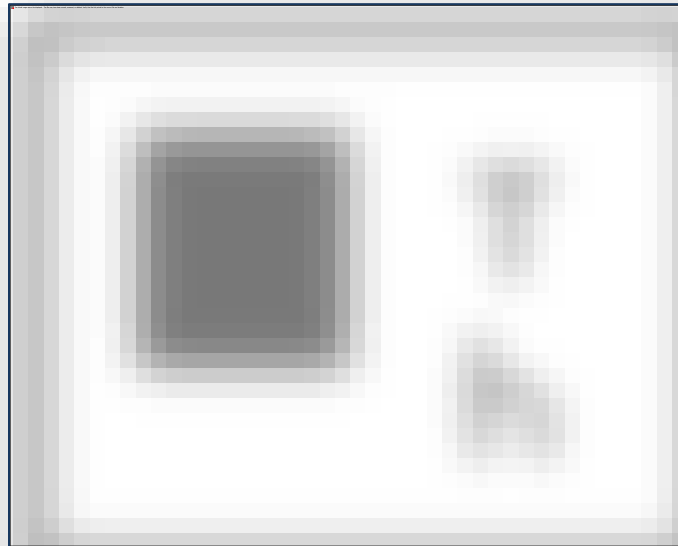


Figure 19 - SWA Over Land Arrivals Scatter Graph 1

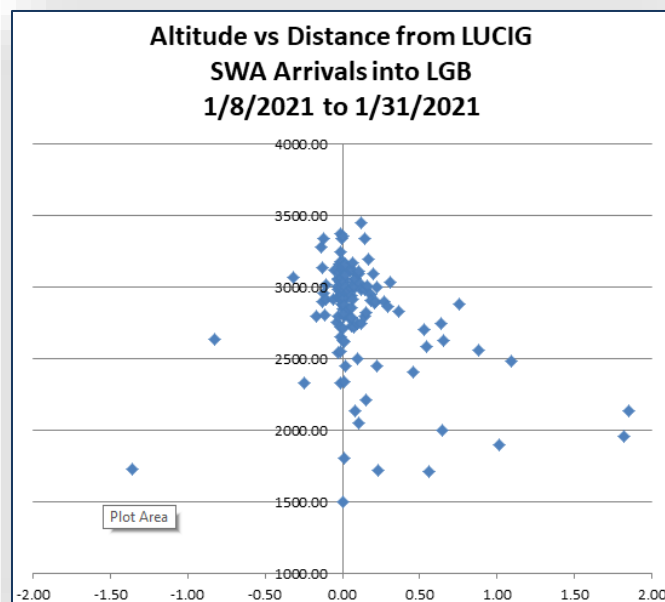


Figure 20 - SWA Over Land Arrivals Scatter Graph 2

Metric for 3 Degree Glideslope: Over the Coast

For the most part, planes coming in over land discussed in the section above are fairly constrained by other arrival and departures paths, so the variance in distance to LUCIG is not too much. On the other hand, arrivals from the north that cross the coast often cut short of LUCIG and cross the coast closer to LGB as seen in Figure 21. That means that each coast crossing has its own preferred altitude that is the same as the glideslope path at the perpendicular to that point. So that makes the scatter graph just a little harder to interpret as compared to the simple LUGIG graphs in Figure 19 and Figure 20.

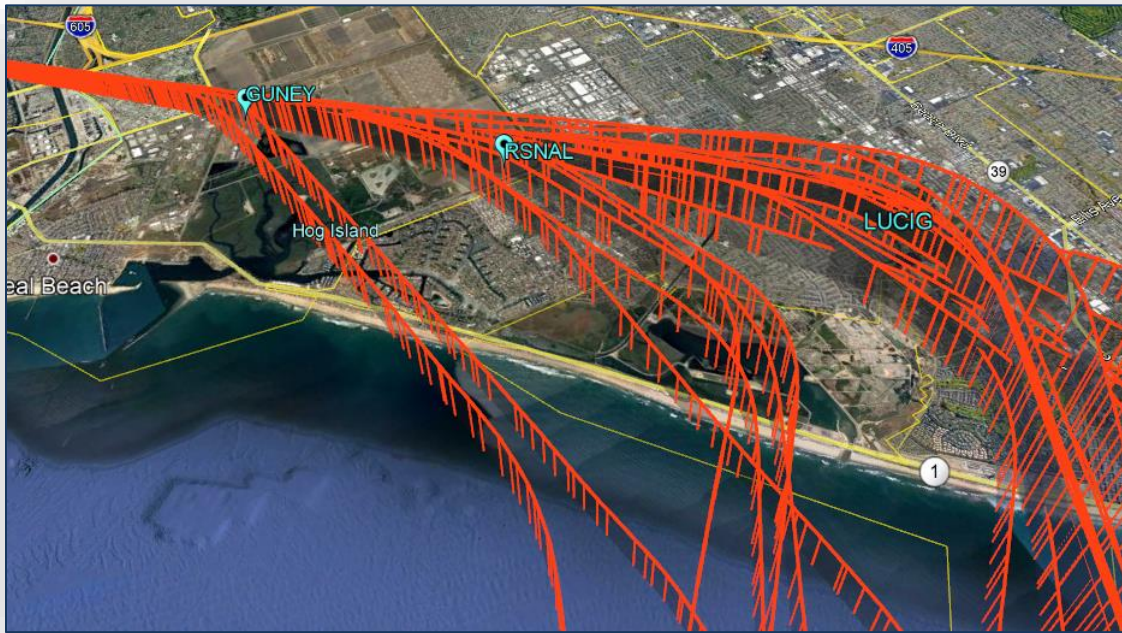


Figure 21 - LGB Arrivals from the North

Figure 22 shows a scatter graph for planes crossing the coast. The 0 mile point is where the LUCIG perpendicular crosses the coast and the 5 mile point is where the GUNEY perpendicular crosses the coast. The red line is a 3-degree glideslope indicator between them.

Based on how far up the coast from LUCIG a plane crosses the coast, it can be on or above that red line and still conform to the proper glideslope path. But all those below the line have to maintain thrust to achieve 1500 feet at GUNEY. It would be preferred if those flights were higher and closer to that red line.

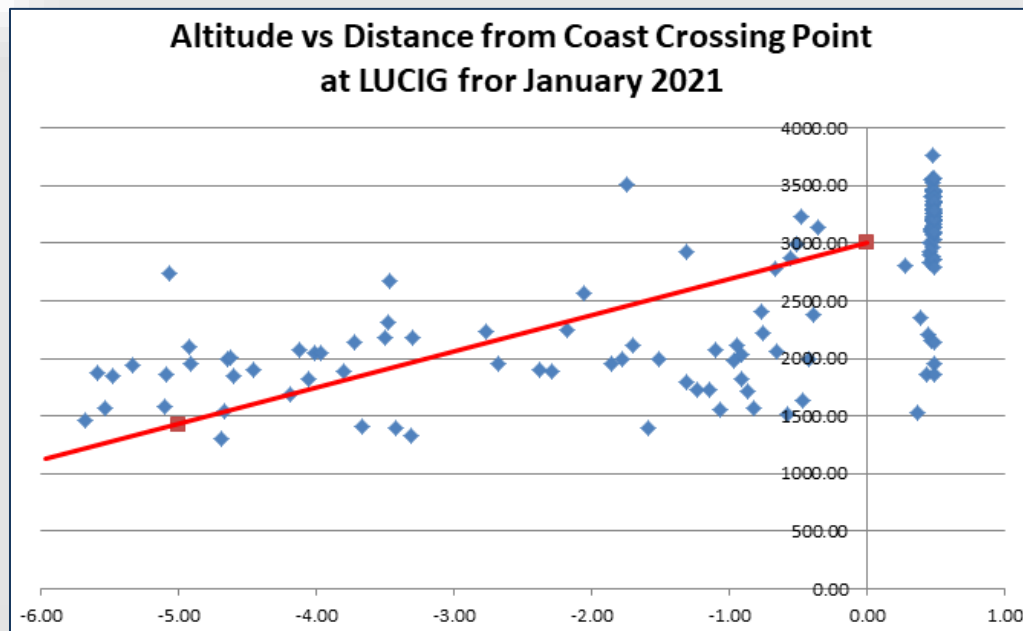


Figure 22 - Coast Crossing Scatter Graph

2021 Outlook

Given that COVID will become more under control, it is likely air traffic passenger volume will rise. A rise in passenger traffic does not always indicate an increase in overall flights; however, it depends on many variables.

In discussions with Long Beach, their expectation is a 50% rise in arrivals going from the 22 per day now to say 30 to 35 by the end of 2021. That would likely increase traffic, noise, and noise complaints over the City. Southwest and Hawaiian will likely take those additional slots. It is still unclear if FedEx will return to LGB.

Longer term and big picture, most industry experts agree that after a decade or two of continued airline growth, the COVID19 reset will not recover for a while. Most reports show traffic growth gaining throughout 2021, 2022, and 2023 with some indicating that even by 2023 capacity will only be at maybe 80% or so of previous levels.

Of course there are too many factors to have a real crystal ball. For instance, a huge spike in the price of oil would drive up jet fuel cost ultimately raising prices. Although alternative fuel planes are in development, they won't be ready for long haul commercial use for quite some time to come.